

NEW PRODUCT GUIDE – DET14C and DET24C



- Elliptical clamp shape – improves access - clamp straps up to 50mm
- Low maintenance flat jaw interface
- CATIV 600V Safety
- Ultra long battery life utilising readily available batteries
- Time and date stamped stored test results
- Pre-test hold function
- Backlit display for low light environments
- Noise filter function

New range of DET Earth/Ground Clamp-on testers

The new DET14C and DET24C are advanced new earth / ground clamp-on testers that set new standards in terms of access, features, simple operation and safety.

These instruments are a completely new design, being both engineered and manufactured at the Dover manufacturing site in the UK. Designed with flat core ends they prevent dirt build up, ensuring measurement integrity and improved reliability over previous products with interlocking teeth. Other enhancements include improved accuracy, ultra high battery life, safety to CATIV600V and a built in filter function for electrically noisy environments.

The key product benefits:

- **Versatile**
 - Suitable for many applications
 - Improved access
 - Elliptical head
- **Best safety**
 - CATIV 600V
 - Auto-current measurement safety feature
- **Dependable**
 - Long battery life
 - Tough and reliable
 - Flat jaw interface
- **Easy to use**
 - Advance test result management
 - Intuitive operation

The new DET14C and DET24C are replacement products for the DET10C and DET20C respectively. The DET10C and DET20C is now obsolete and has been withdrawn from sale.

Key Applications:

- Pole grounds
- Service entrance/meter electrode
- Service panel
- Pad mount transformer earth
- Transmission towers
- Telephone pedestal
- Telephone cabinets
- Lightning protection electrodes

Testing is important for:

- Ensuring earth ground electrode systems are of a low enough resistance to help prevent or limit:
 - Voltage rises caused by fault current, surges, lightning strikes etc.

The new range selection chart - differences at a glance:

Improvements over DET10C and DET20C

		Current products		New products	
		DET10C	DET20C	DET14C	DET24C
		Replaces		DET10C	DET20C
		N/A		N/A	N/A
Common Features					
Physical use	Elliptical clamp shape - improved access to straps			✓	
	Short product length - improved access to earth pits	276mm		248mm	
	Flat jaw interface on clamp - low maintenance			✓	
	Maximum round conductor size	35mm		37mm	
	Maximum earth strap width	35mm		55mm	
Safety	CAT rating	CATIII 300V / CATII 600V		CATIV 600V	
	Auto current measurement safety feature			✓	
Display	Backlit LCD display			✓	
	Secondary display			✓	
Battery	Battery type readily available	1 x 9V IEC 6LR61 (PP3)		4 x 1.5V IEC LR6 / AA	
	Battery life	7 hours continuous on 25Ω load		24 hours continuous on 25Ω load	
Environmental	Dust and moisture ingress IP rating	None		IP30	
	Auto noise filter function - for use in electrically noisy environments			✓	
	Operating temperature range	0°C to 50°C		-20°C to 50°C	
	Storage temperature range	-20°C to 50°C		-40°C to 60°C	
Differentiating Features					
Data storage	Real time clock for date and time stamping of test results	N/A		N/A	✓
	Intelligent data hold - instigate before taking measurement			✓	✓
Software	Download Manager	✓			
	Power DB Lite software			✓	

Full selection chart – differences at a glance

	Manufacturer	Megger	
	Instrument	DET14C	DET24C
<p>*Head dimension ref.</p>	Picture		
Clamp head features	Elliptical head design	YES	YES
	Max Conductor Size	37mm OD - 50mm tape	37mm OD - 50mm tape
	Head depth (A*) mm	45	45
	Jaw thickness (B*) mm	25	25
	Jaw total area (AxB) mm ²	1125	1125
	Jaw teeth that can bend	NO	NO
	Smooth jaw mating surfaces	YES	YES
User safety specifications and features	Safety CAT Rating	CAT IV 600V	CAT IV 600V
	Automatic current warning in Ω range	YES	YES
Resistance measuring specifications	Resistance Range Summary	0.05Ω to 1500Ω	0.05Ω to 1500Ω
	Resistance Measurement Frequency	1396 Hz	1396 Hz
	Automatic noise filter function	YES	YES
	Resistance alarm Function - user settable limits	YES (HI / LO) 0Ω to 1500Ω	YES (HI / LO) 0Ω to 1500Ω
	Continuity/Alarm Buzzer	YES	YES
Current measuring specifications	Current Range Summary	0.5mA to 35.00A	0.5mA to 35.00A
	Current Autorange	YES	YES
	True RMS	YES	YES
	Maximum Current	100A continuous 200A for 20s max	100A continuous 200A for 20s max
	Current alarm Function - user settable limits	YES (HI / LO)	YES (HI / LO)
Display related specifications	Hold Function	YES - tactile feedback	YES - tactile feedback
	Pre-Hold Function - initiate prior to test	YES	YES
	Backlight	YES	YES
Data / test result related functions	Logging Function	No	No
	Logging Interval	n/a	n/a
	Data Storage	200 records	2k records
	Data Download	NO	YES (IrDA via USB)
	Date and time stamped stored test results	YES	YES
Power related specifications	Auto Power Off	YES 3 mins	YES 3 mins
	Power Supply	4x IEC LR6 (AA)	4x IEC LR6 (AA)
	Battery Life	24 Hours	24 Hours
Physical specifications	Weight	1.1kg	1.1kg
	Dimensions (L x W x D)	248mm x 110mm x 46mm	248mm x 110mm x 46mm
Environmental specifications	IP Rating	IP30	IP30
	Operating temperature range	-20°C to 50°C	-20°C to 50°C
	Storage temperature range	-40°C to 60°C	-40°C to 60°C
What's supplied	Carry Case	YES	YES
	Calibration Loop	YES	YES
	Battery Included	YES	YES
	Software Included	NO	YES
Aftersales	warranty	1 year	1 year

Anatomy of a DET14C / DET24C – key features:

- **CATIV safety rated**



- **Highest level of safety available**
- **CATIV means it may be used before the distribution board**
- **600V refers to the phase to earth voltage of the system**

- **New elliptical design clamp head**



- **Clamps round cables up to 37mm diameter.**
- **Clamps earth tapes / straps up to 50mm wide**
- **Can clamp round conductors at more of an angle for better access**
- **Slim in profile to for better access**

- **Clamp head with smooth mating surfaces**



- **Smooth mating surfaces**
 - **Easy to clean**
 - **No interlocking teeth to damage**
 - **HINT – Fluke head has both interlocking teeth on one core and smooth on the other**

- **Ergonomic trigger design**



- **Easy and comfortable to operate**
- **Less likely to slip off trigger causing head to snap shut**

- **Main function selection using rotary switch**



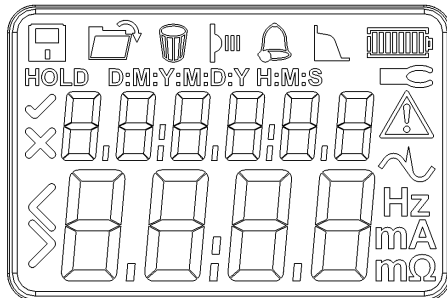
- **Easy and comfortable to operate – thumb operation**
- **Operate with gloved hand**

- **New advanced test result storage and management:**



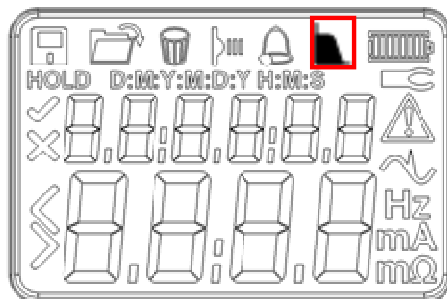
- **Time and date stamp stored test results**
- **Data is saved from either resistance mode (Ω) or current mode (A). Pressing the save key (📄) will record a result**
- **Test results may be reviewed on screen together with time and date the test was made**
- **Easy to use arrow buttons to navigate test results**
- **Additional DET24C functions:**
 - **Data easily downloaded via a safe IR isolated USB port**
 - **Instruments supplied with PowerDB Lite**

- **Large display**



- **Clear symbolic operation**
- **Backlit for low light conditions such as cable basements**
- **Secondary display**
 - Time and date information**
 - Stored result reference**

- **Noise filter function**

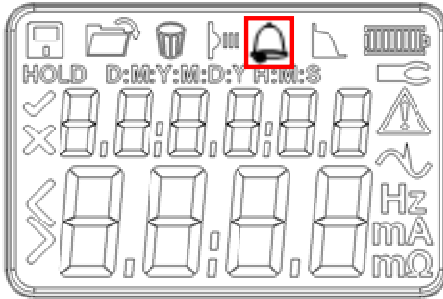


- **Easy to enable**
- **Should the instrument detect the presence of noise the ~ symbol will illuminate. The user can select the filter function to increase noise immunity with a slight increase in measurement period.**
- **An important feature if the instrument is to be used in locations such as sub-stations.**

New DET Clamp range

Digital Earth Clamp-on Tester

- **Alarm limit function**



- Easy to enable
- Can be set for resistance and current limits.
- Current limit function is an important new and unique safety feature
- Easy to set test minimum and maximum limits
- If limits are exceeded the instrument provides both audible and visual indication

- **Pre-test hold function**



- Easy to use
- In addition to normal display hold function the instruments features a new pre-test hold function
 - Depressing the HOLD button with the clamp closed and no conductor present will activate an automatic hold of the next result. HOLD will flash on screen until the measurement is taken or it times out. The instrument will sense open jaws, closed jaws and take a reading, then freeze the reading on screen and beep to indicate that it is complete

THESE PRODUCTS ARE USED BY, AND FOR WHAT SUMMARY

Segment	Sub-Segment	Applications
Electrical Contractors		
	<ol style="list-style-type: none"> 1. Power company contractors 2. Commercial contractors 3. Street lighting contractors 4. Industrial contractors 	<ol style="list-style-type: none"> 1. Substation earths 2. Earth conductor resistance of urban installations where a stake-and-wire fall-of-potential test is not possible 3. Pole-mounted transformer earths 4. Multiple electrode lightning protection systems 5. Street light ground electrodes
Specialist Earthing Companies		
	<ol style="list-style-type: none"> 1. Lightning protection installation and maintenance company 2. Utility contracts 	<ol style="list-style-type: none"> 1. Substation earths 2. Earth conductor resistance of urban installations where a stake-and-wire fall-of-potential test is not possible 3. Pole-mounted transformer earths 4. Multiple electrode lightning protection systems
Insurance		
	<ol style="list-style-type: none"> 1. Claim investigation 2. Inspection engineer 	<ol style="list-style-type: none"> 1. Multiple electrode lightning protection systems
Utilities		
	<ol style="list-style-type: none"> 1. Wind Farms 2. Power Generation 3. Power Transmission 3. Water Company 4. Waste Company 	<ol style="list-style-type: none"> 1. Substation earths 2. Earth conductor resistance of urban installations where a stake-and-wire fall-of-potential test is not possible 3. Pole-mounted transformer earths
Communications		
	<ol style="list-style-type: none"> 1. Land line telecom company 2. Cell phone company 3. Datacom company 	<ol style="list-style-type: none"> 1. Radio tower earthing 2. Cellular tower earthing 3. Microwave tower earthing 4. Datacom installations 5. Central office earthing 6. Power supply earthing 7. Exchange earthing
County Councils / Local Authorities		
	<ol style="list-style-type: none"> 1. Maintenance Departments 	<ol style="list-style-type: none"> 1. Lightning protection 2. Street lightning earth electrodes
Railway		
	<ol style="list-style-type: none"> 1. Railway company 2. Railway contractor 	<ol style="list-style-type: none"> 1. Lightning protection - catenary systems, rail earths, fencing etc. 2. Substation earths
Mining		
	<ol style="list-style-type: none"> 1. Mining company 2. Mining contractor 	<ol style="list-style-type: none"> 1. Underground supply earthing 2. Static protection earthing
Oil and gas		
	<ol style="list-style-type: none"> 1. Refineries 2. Contractors 	<ol style="list-style-type: none"> 1. Lightning protection 2. Static protection earthing
Army, Airforce, Navy		
	<ol style="list-style-type: none"> 1. Base maintenance 2. Radio communications 3. Defence contractor 	<ol style="list-style-type: none"> 1. Lightning protection 2. Static protection earthing 3. Radio tower earthing
Education		
	<ol style="list-style-type: none"> 1. Training Company 2. Training Departments 	Varied
Hire Company		
	Instrument hire	Varied

APPLICATION TECHNICAL OVERVIEW

Please refer to the Application note supplied separately or available from: www.megger.com
File name: **DET14_DET24_an_en_V_01.pdf**

Ordering Information

DET14C Digital earth test clamp-on meter	1000-761
DET24C Digital earth test clamp-on meter	1000-762

Included accessories for DET14C and DET24C

Carrying case	1001-715
Carrying strap (wrist loop)	1001-716
User guide CD-ROM	1001-198
Calibration check accessory	1001-199

Additional Included accessories for DET24C

USB IrDA dongle	90001-434
PowerDB Lite software	1000-576